

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/37656

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12M 1/34; C 12N 11/12; C 12Q 1/02; GO IN 21/00. 27/00
US CL : 422/57, 58, 82.0 I; 435/29, 179, 287.9, 288.5

According to International Patent Classification CIPCI or to both national classification find IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 422/57, 58, 82.01; 435/29, 179, 287.9, 288.5

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
West, Ciem Abstracts

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/50570 A2 (UNIVERSITY OF BRITISH COLUMBIA) 31 August 2000 (31.08.2000), see page 1 lines 20-24, page 4 last paragraph bridging to page 5, page 19	I-72 and 74-97
Y	WO 99/63329 A1 (THE REGENTS OF THE UNIVERSITY OF CALIFORNIA) 09 December 1999 (09.12.1999), see the abstract.	I-72 and 74-97
Y	US 2002/0 172621 A1 (BARBERA -GUILLEM) 21 November 2002 (21.11.2002). see paragraph 35.	I-72 and 74-97
Y	US 2002/0 173033 A1 (HAMMERICK et al.) 21 November 2002 (21.11.2002), see paragraphs 83, 102.	I-72 and 74-97
Y	US 6,596,545 B1 (WAGNER et al.) 22 July 2003 (22.07.2003), see column 1 last full paragraph, column 3 lines 40-50, column 8.	I-72 and 74-97
A. E	US 2004/0224380 A1 (CHOU et al.) 11 November 2004 (11.11.2004), see paragraphs 151, 219, 234, 242, ,259, 298, 314, 436, 440.	I-72 and 74-97
Y, P	US 2004/0002131 A1 (KIM et al.) 01 January 2004 (01.01.2004), see paragraph 23.	I-72 and 74-97
Y, P	US 2004/0142411 A1 (KIRK et al.) 22 July 2004 (22.07.2004), see paragraphs 49, 52, 57, 94, 101, 110, 131.	I-72 and 74-97

Further documents are listed in the continuation of Box C.

See patent family annex.

• Special categories of cited documents:	"P"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

11 October 2005 (11.10.2005)

Date of mailing of the international search report

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons

- 1 Claims Nos because they relate to subject matter not required to be searched by this Authority, namely
- 2 Claims Nos 73 because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically
Claim 73 is not listed in the claims
- 3 Claims Nos because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 64(a)

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application as follows

- 1 As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
- 2 As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of any additional fees
- 3 As only some of the required additional search fees were timely paid by the applicant this international search report covers only those claims for which fees were paid, specifically claims Nos
- 4 No required additional search fees were timely paid by the applicant Consequently, this international search report is restricted to the invention first mentioned in the claims, it is covered by claims Nos

- Remark on Protest The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation
- No protest accompanied the payment of additional search fees